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TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
2702

By: Application Of: FRUEHAUF, N.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/689,352	10/20/2003	KUMAR	278		

Invention: ACTIVE MATRIX DRIVE CIRCUIT

COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on

June 22, 2007

The fee for filing this Appeal Brief is: \$500.00

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Dated: AUGUST 21, 2007

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(Date)


Signature of Person Mailing Correspondence

MICHAEL J. STRIKER

Typed or Printed Name of Person Mailing Correspondence

CC:



UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Srilakshmi K. Kumar Docket No.: 2702 Art Unit: 2629

In re:

Applicant: Norbert FRUEHAUF

Serial No.: 10/689,352

Filed: October 20, 2003

BRIEF ON APPEAL

August 21, 2007

Commissioner for Patents
P O Box 1450
Alexandria, VA 22313-1450

Sir:

This is a Brief on Appeal from the final rejection of claims 1-3
by the Examiner.

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On

8/21/07

Real Party of Interest

The real party of interest in this application is Universitat Stuttgart having an address of Keplerstrasse 7, Stuttgart, Germany 71065.

Related Appeals and Interferences

No pending appeals, interferences or judicial proceedings are known to appellant, the appellant's legal representative or assignee which may be related to, direct affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

In the present application there are claims 1-3. These claims are rejected by the Examiner. Claims 1-3 therefore are appealed by the appellant from the final rejection by the Examiner.

Status of Amendments

In the present application the Final Office Action was issued on January 17, 2007. After the Final Office Action appellant filed an Amendment dated May 11, 2007. In the Advisory action of June 8, 2007 the Examiner indicated that the appellant's amendment did not place the application in condition for allowance.

Summary of the Claimed Subject Matter

The present invention deals with a driving circuit for an image point 10 of an image screen which has an organic light-emitting diode.

The driving circuit has a capacitor C, a feedback coupling, a first thin film transistor T1 as a current-driving transistor for the diode, a second transistor T2 which is connected by a current-conducting electrode with a gate of the first transistor T1 and by a second current-conducting electrode with a data conductor D and by its gate electrode with a scanning signal conductor A, and a third film transistor T3 which during driving its gate through a driving conductor taps a diode driving current at an output of the first current-driving transistor T1 and supplies a current measuring-and voltage regulating circuit 11. This is disclosed in lines 7-18 on page 9 of the specification and shown in the single Figure of the drawings.

The current measuring-and voltage regulating circuit 11 provides to the data conductor D a voltage signal which is dependent on a current measuring result and a voltage comparison, so that the diode during driving of the gate of the third transistor T3 due to its non-linear switching characteristic acts as a switch for a current deviation in the

current measuring-and voltage-regulating circuit 11. This is disclosed in lines 3-13 on page 10 of the specification and shown in the single figure of the drawings.

The above mentioned features of the present invention are defined in claims 1 and 3. Claim 3 additionally defines that all the above mentioned elements of the driving circuit are located at the same side of the light emitting diode, so that no contacts must be guided through a semiconductor material of the diode. This is clearly shown in the drawings.

Claim 2 depends on claim 1 and shares its features.

Grounds of Rejection to be Reviewed on Appeal

The only ground of rejection is the rejection of claims 1-3 by the Examiner under 35 U.S.C. 103(a) as being unpatentable over the U.S. patent application publication to Inukai in view of the U.S. patent application publication to Bu.

Argument

Argument related to the only ground for rejection namely the rejection of claims 1-3 under 35 U.S.C. 103(a) over the Inukai and Bu references.

Turning now to the Examiner's grounds for the rejection of the claims over the art, it is respectfully submitted that applicant disagreed with the Examiner's grounds for the rejection of the claims.

The Bu reference provides a light emitting diode system with current feedback in order to have a constant current through the OLED. Bu wants to eliminate the effect of variations of the transistor characteristics on the current flowing through the OLED. The solution of Bu however requires a separate switch with an inverter and does not use the switching function of the OLED itself. Further the device of Bu requires to guide the contacts through the semiconductor material of the diode.

The Inukai reference does not intend to get information about the characteristics of the driver transistor of the OLED but only the OLED itself. This object is therefore different from the object of Bu's invention and of the present invention. Therefore Inukai measures the current flowing through the driving transistor. The third transistor in

Inukai's circuit has the only task to discharge the storage capacitor 308. The third transistor does not guide the measuring current. Further the power supply circuit and the measuring circuit are the same.

According to the present invention as defined in the claims the measuring circuit and the power supply circuit are separate. The third transistor measures the output current of the second transistor. Therefore the input current of the OLED is measured and not the output current as Inukai does. Further the device of the present invention uses the switching characteristics of the OLED to measure the current. It does not need any additional switch like Bu.

It is therefore believed to be clear that it can not be considered as obvious to combine the teachings of the patents to Inukai and Bu as suggested by the Examiner.

In connection with this, it is believed to be advisable to cite relevant decisions which are pertinent to the Examiner's unjustifiable rejection of the claims. In the decision ACS Hosp. Sys, Inc. v. Montfiori Hosp. 221 USPQ 929, 932, 933, it was stated:

Obviousness can not be established by combining the teaching of the prior art reproduced in the claimed invention absent some teaching or suggestion supporting the combination. Under Section 103 teachings of references can be combined only if there is some suggestion or incentive to do so.

Definitely, the references applied by the Examiner do not have any teaching or suggestion supporting the combination, and moreover a person of ordinary skill in the art would never combine the teachings of the references which are so different from one another as explained above.

In re Gurle, 31 USPQ 2d, 1130, 1131 it was stated:

A reference may be said to teach away when a person of ordinary skill in the art upon leading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken from the applicant.

As explained herein above, the references definitely teach away from each other and from the present invention, and therefore there is nothing obvious in combining the references.

If for some unknown and highly improbable reasons the references were combined with one another, a hypothetical construction produced from such a combination would still not make the present

obvious. Claims 1 and 3 specifically define that the OLED acts as a switch, but neither Inukai nor Bu teaches that the OLED is used as a switch. However, this feature is of exceptional importance. It replaces the inverter and several transistors of the Bu's circuit.

Therefore in order to arrive at the applicant's invention from the references, the references can not be simply combined, but they have to be fundamentally modified, in particular by including into them the features which were first proposed by the appellant. However, it is known that in order to arrive at a claimed invention, by modifying the references the cited art must itself contain a suggestion for such modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals, which for example, held in its decision in *re Randol and Redford* (165 USPQ 586) that

Prior patents are references only for what they clearly disclose or suggest, it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest.

Finally, the present invention provides for the highly advantageous results. As explained herein above, the mentioned new features of the present invention allows to replace the inverter and several

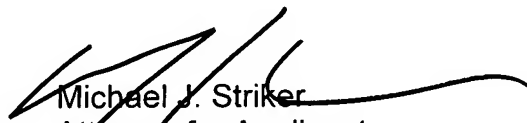
transistors of the Bu's circuit. It is well known that in order to support a valid rejection the art must also suggest that it would accomplish applicant's results. This was stated by the U.S. Patent Office Board of Appeals in the case Ex parte Tanaka, Marushma, and Takahashi (174 USPQ 38), as follows:

Claims are not rejected on the ground that it would be obvious to one of ordinary skill in the art to rewire prior art devices in order to accomplish applicant's result, since there is no suggestion in prior art that such a result could be accomplished by so modifying prior art devices.

In view of the above presented arguments, it is believed that the rejection of claims 1 and 3 should be considered as not tenable, the Examiner's rejection of the claims 1 and 3 should be reversed, and claims 1 and 3 should be considered as patentably distinguishing over the art and should be allowed.

As for claim 2, this claim depends on claim 1, it shares its allowable features, and should be allowed as well.

Respectfully submitted,


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CLAIMS APPENDIX

1. A driving circuit for an image point of an image screen which has an organic light-emitting diode, comprising a capacitor; a feedback coupling; a first thin film transistor as a current-driving transistor for the diode; a second transistor which is connected by a current-conducting electrode with a gate of said first transistor and by a second current-conducting electrode with a data conductor and by its gate electrode with a scanning signal conductor; a third thin film transistor which during driving its gate through a driving conductor taps a diode driving current at an output of said first current-driving transistor and supplies a current measuring- and voltage regulating circuit, said current measuring- and voltage regulating circuit providing to the data conductor a voltage signal which is dependent on a current measuring result and a voltage comparison, so that the diode during driving of said gate of said third transistor due to its non-linear switching characteristic acts as a switch for a current deviation in said current measuring- and voltage regulating circuit.

2. A driving circuit as defined in claim 1, wherein said second and said third transistors have gate electrodes which are both connected with said scanning signal conductor.

3. A driving circuit for an image point of an image screen which has an organic light-emitting diode, comprising a capacitor; a feedback coupling; a first thin film transistor as a current-driving transistor for the diode; a second transistor which is connected by a current-conducting electrode with a gate of said first transistor and by a second current-conducting electrode with a data conductor and by its gate electrode with a scanning signal conductor; a third thin film transistor which during driving its gate through a driving conductor taps a diode driving current at an output of said first current-driving transistor and supplies a current measuring- and voltage regulating circuit, said current measuring- and voltage regulating circuit providing to the data conductor a voltage signal which is dependent on a current measuring result and a voltage comparison, so that the diode during driving of said gate of said third transistor due to its non-linear switching characteristic acts as a switch for a current deviation in said current measuring- and voltage regulating circuit, wherein all above mentioned elements of the driving circuit are located at a same side of said light emitting diode, so that no contacts must be guided through a semiconductor material of the diode.

RELATED PROCEEDINGS APPENDIX

None

EVIDENCE APPENDIX

None